

**Amendments to the Claims**

The listing of claims below will replace all prior versions and listings of claims in the application. The changes to currently amended claims are shown using strikethrough to identify deleted material and underlining to identify added material, except that when strikethrough would be difficult to perceive (e.g., as in the deletion of punctuation marks, such as commas), double brackets are used instead of strikethrough to identify the deleted material.

**Listing of Claims:**

1. (currently amended) A method of detecting a megakaryocyte comprising:
  - (a) preparing an assay sample by combining a sample comprising a cell with a reagent comprising a fluorescent dye, wherein the preparing does not involve an immunological method;
  - (b) detecting a plurality of optical information as a plurality of morphological information from the cell;
  - (c) generating a scattergram from the plurality of ~~morphological~~ optical information using settings adjusted to display a megakaryocyte population; and
  - (d) detecting the megakaryocyte if a population exists in a predetermined megakaryocyte region of the scattergram.
2. (canceled)
3. (original) The invention of claim 1 wherein the detecting involves an automated hematology analyzer.
- 4-5. (canceled)
6. (currently amended) The invention of claim 1 wherein the plurality of ~~morphological~~ optical information comprises side scattered light and fluorescent light emitted by the cell.

7. (withdrawn – currently amended) The invention of claim 1 wherein the plurality of ~~morphological~~ optical information comprises forward scattered light and side scattered light emitted by the cell.

8. (withdrawn – currently amended) The invention of claim 1 wherein the plurality of ~~morphological~~ optical information comprises forward scattered light and fluorescent light emitted by the cell.

9. (canceled)

10. (original) The invention of claim 1 further comprising identifying the megakaryocyte region of the scattergram.

11. (original) The invention of claim 10 wherein the identifying comprises:  
generating a first reference scattergram from a plurality of information detected from a purified megakaryocyte;

generating a second reference scattergram from a plurality of information detected from a cell in at least one of a peripheral blood sample and a bone marrow sample, wherein the peripheral blood sample and the bone marrow sample are substantially free of megakaryocyte; and

comparing the first reference scattergram to the second reference scattergram, thereby identifying the megakaryocyte region.

12. (withdrawn) The invention of claim 11 wherein the purified megakaryocyte comprises a differentiated Dami cell.

13. (original) The invention of claim 11 wherein the purified megakaryocyte comprises a cell induced from a CD34 positive hematopoietic cell.

14. (original) The invention of claim 13 wherein the cell is induced with thrombopoietin.

15. (currently amended) A method of detecting a megakaryocyte comprising:

(a) preparing an assay sample by combining a sample comprising a cell with a reagent comprising a fluorescent dye, wherein the preparing does not involve an immunological method;

(b) detecting a plurality of information from the cell, wherein the information is comprises degree of cell staining information and at least one information selected from the group consisting of cell size information[[.]] and cell interior information, ~~degree of cell staining information, and combinations thereof;~~

(c) generating a scattergram by plotting the plurality of information using settings adjusted to display a megakaryocyte population; and

(d) detecting the megakaryocyte if a population exists in a predetermined megakaryocyte region of the scattergram.

16. (original) The invention of claim 15 wherein the detecting involves an automated hematology analyzer.

17-18. (canceled)

19. (previously amended) The invention of claim 15 wherein the cell interior information is detected based on side scattered light emitted by the cell, and the degree of cell staining information is detected based on fluorescent light emitted by the cell.

20. (withdrawn – previously amended) The invention of claim 15 wherein the cell size information is detected based on forward scattered light emitted by the cell, and the cell interior information is detected based on side scattered light emitted by the cell.

21. (withdrawn – previously amended) The invention of claim 15 wherein the cell size information is detected based on forward scattered light emitted by the cell, and the degree of cell staining information is detected based on fluorescent light emitted by the cell.

22. (withdrawn) The invention of claim 15 wherein the detecting comprises passing the assay sample through an electrically charged aperture and identifying the cell size information based on a change in direct current resistance and the cell interior information based on a change in radio frequency resistance.

23. (previously amended) A method of detecting a megakaryocyte comprising:

(a) preparing an assay sample by combining a sample comprising a cell with a reagent comprising a fluorescent dye and a hemolytic agent, wherein the preparing does not involve an immunological method;

(b) detecting scattered light and fluorescent light emitted by the cell;

(c) generating a scattergram by plotting the scattered light and the fluorescent light using settings adjusted to display a megakaryocyte population; and

(d) detecting the megakaryocyte if a population exists in a predetermined megakaryocyte region of the scattergram.

24. (original) The invention of claim 23 wherein the scattered light comprises side scattered light.

25. (original) The invention of claim 23 wherein the detecting involves an automated hematology analyzer.